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Date: 05/04/05 MLRA: 52XC Ecological Site: Clay Pan 10-14" p.z. This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years for <u>each</u> community within the reference state (when appropriate), and (3) cite data. Continue descriptions on separate sheet if needed. <b>Weight factors</b> are 0.5, 1.0 or 2.0. The default factor is 1.0. A maximum of 8 indicators may be changed to 0.5 or 2.0. The rest remain at 1.0.	<b>Wgt. Factor</b>
<b>1. Number and extent of rills:</b> Rills should not be present in HCPC. If in plant community A on slopes > 15%, careful examination will yield slight evidence of rills that are less than ½ inch deep, linear, but short in length. If in plant community B on slopes > 15%, rills would be visible, ½ inch deep or more, linear, rarely exceeding 1 foot in length. Distance between rills is irregular.	1.0
<b>2. Presence of water flow patterns:</b> Water flow patterns should not be observable in HCPC. If in plant community A, careful examination will yield short discontinuous water flow patterns. If in plant community B, water flow patterns would be visible as long (more than 1 foot) and continuous across the landscape.	1.0
<b>3. Number and height of erosional pedestals or terracettes:</b> Pedestals or terracettes are nonexistent in HCPC. If in plant community A, careful examination on slopes > 8% yield occasional pedestals approximately ¼ inch above the soil surface. If in plant community B, pedestals are frequent and ½ - ¾ inch above the soil surface.	1.0
<b>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground):</b> Less than 10-20% of the soil surface should be bare in HCPC. Bare ground should be less than 2" in diameter. If in plant community A, 20-45% of the soil surface can be exposed. If in plant community B, 45-60% of the soil surface can be exposed.	1.0
<b>5. Number of gullies and erosion associated with gullies:</b> None.	1.0
<b>6. Extent of wind scoured, blowouts and/or depositional areas:</b> None.	1.0
<b>7. Amount of litter movement (describe size and distance expected to travel):</b> Litter movement is not expected with HCPC. If in plant community A, careful examination will yield some fine litter movement for a short distance. If in plant community B, litter, both fine and coarse, movement is visible, especially on slopes > 8%, but the distance moved is less than 1 foot.	1.0
<b>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values for both plant canopy and interspaces, if different):</b> Stability class anticipated to be 5 or 6 under plant canopy. Interspaces are between 3-5.	1.0
<b>9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different):</b> The light gray to grayish brown clay surface layer is 2 - 8" thick. The surface texture ranges from loam, fine sandy loam and clay loam. Soil organic matter is usually 1-3%.	1.0
<b>10. Effect of plant community composition (relative proportion of different functional groups) &amp; spatial distribution on infiltration &amp; runoff:</b> In HCPC, 40-50% plant canopy and 40-70% basal cover with small gaps between plants should reduce raindrop impact and slow overland flow, providing increased time for infiltration to occur. Healthy, deep rooted native grasses enhance infiltration and reduce runoff. Infiltration rate is slow. If in plant community A, 15-30% plant canopy and 20-35% basal cover with moderate gaps between plants will intensify raindrop impact and increase overland flow, causing decreased time for infiltration. If in plant community B, 10-20% plant canopy and 10-20% basal cover with sizeable gaps between plants, amplifies raindrop impact and increases overland flow. The site tends to be more xeric as runoff increases.	1.0
<b>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):</b> No compaction layer or soil surface crusting should be evident in any of the State 1 plant communities. Restrictive, very hard claypan begins at 2 - 8 inches.	1.0
<b>12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: &gt;&gt;, &gt;, = to indicate much greater than, greater than, and equal to) :</b> HCPC: Tall and mid-stature, cool season bunch grasses = mid-stature, cool season rhizomatous grasses > short cool season bunch grasses > shrubs > forbs. <b>Plant community A:</b> Mid-stature, cool season rhizomatous grasses > tall and mid-stature, cool season bunch grasses > short stature, warm season rhizomatous > shrubs > forbs. <b>Plant community B:</b> Mid-stature, cool season rhizomatous grasses > short warm season perennial grasses > tall and mid-stature, cool season bunch grasses > forbs > shrubs.	1.0
<b>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):</b> Plant mortality and decadence very low in HCPC and Plant community A. In periods of drought, shrubs would exhibit decadence in the state 1 reference communities.	1.0
<b>14. Average percent litter cover (40-50%) and depth (0.25 to 0.50 inches).</b> Litter cover is in contact with soil surface. Litter decreases in Plant community A to 20-30% and depth is reduced to 0.25 inch. Litter decreases to less than 10-15% in Plant community B and is immeasurable.	1.0
<b>15. Expected annual production (this is TOTAL above-ground production, not just forage production):</b> 500 - 1200 #/acre from Plant community B to HCPC in the State 1 reference community.	1.0
<b>16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "will continue to increase regardless of the management of the site" and may eventually dominate the site:</b> Blue grama, prairie junegrass, needleleaf sedge, curly cup gumweed, Sandberg bluegrass, fringed sagewort, plains prickly pear, broom snakeweed, dense clubmoss.	1.0
<b>17. Perennial plant reproductive capability:</b> All species are capable of reproducing in HCPC and Plant community A. In Plant community B, plant seedlings will be weighed in favor of marginal and undesirable species.	1.0